To: Martin, Matt[Martin.Matt@epa.gov]; Matthew Ross[MRoss@cvm.msstate.edu]; Lauren Zeise[[redacted]; frank lecurieux[frank.lecurieux@echa.europa.eu]; Christopher Portier[[redacted]
Cc: Rusyn, Ivan[IRusyn@cvm.tamu.edu]; Lamia Tallaa[tallaal@iarc.fr]; Fatiha El Ghissassi[ElGhissassiF@iarc.fr]
From: Kathryn Guyton
Sent: Tue 3/10/2015 10:26:16 AM
Subject: DZN and GLY: section 6 from sub-group 4

GLY Section 6.docx
DZN Section 6.docx

Now on IOPS, see also below.
Thanks to Ivan, and to you all,
Kate

GLY Section 6.4 – mechanistic and other evidence

There is strong evidence that glyphosate can operate through several key characteristics of human carcinogens and that these can be operative in humans. Specifically:

a) There is strong evidence that exposure to glyphosate or glyphosate formulations is genotoxic. This evidence is from in vivo animal experiments and studies in human and animal cell lines in vitro. Several human in vivo studies in the individuals exposed to glyphosate formulations also found chromosomal damage in blood cells; in one study, the effects were found to be significantly greater post exposure, as compared to pre-exposure in the same individuals. The bacterial tests for genotoxicity of glyphosate were consistently negative.

b) There is strong evidence that glyphosate, glyphosate formulations and AMPA can act to induce oxidative stress. This evidence is from in vivo animal experiments and studies in human and animal cell lines in vitro. This mechanism has been challenged experimentally by administering antioxidants, treatment that abrogated the effects of glyphosate on oxidative stress. Studies in aquatic species provide additional evidence for glyphosate-induced oxidative stress.

From: <Rusyn>, Ivan <IRusyn@cvm.tamu.edu>
Date: Tuesday 10 March 2015 11:12
To: Kate Guyton <guytonk@iarc.fr>
Cc: Lamia Tallaa <tallaal@iarc.fr>, Heidi Mattock <MattockH@iarc.fr>
Subject: DZN section 6 from sub-group 4

DZN Section 6.4 – mechanistic and other evidence

There is strong evidence that diazinon can operate through several key characteristics of human carcinogens and that these can be operative in humans. Specifically:

a) There is strong evidence that exposure to diazinon is genotoxic. This evidence is from in vivo animal experiments and studies in human and animal cell lines in vitro. Two human in vivo studies in the individuals exposed to diazinon, likely in combination with other chemicals.

b) There is strong evidence that diazinon can act to induce oxidative stress. This evidence is from in vivo animal experiments and studies in human and animal cell lines in vitro. This mechanism has been challenged experimentally by administering antioxidants, treatment that abrogated the effects of diazinon on oxidative stress.

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